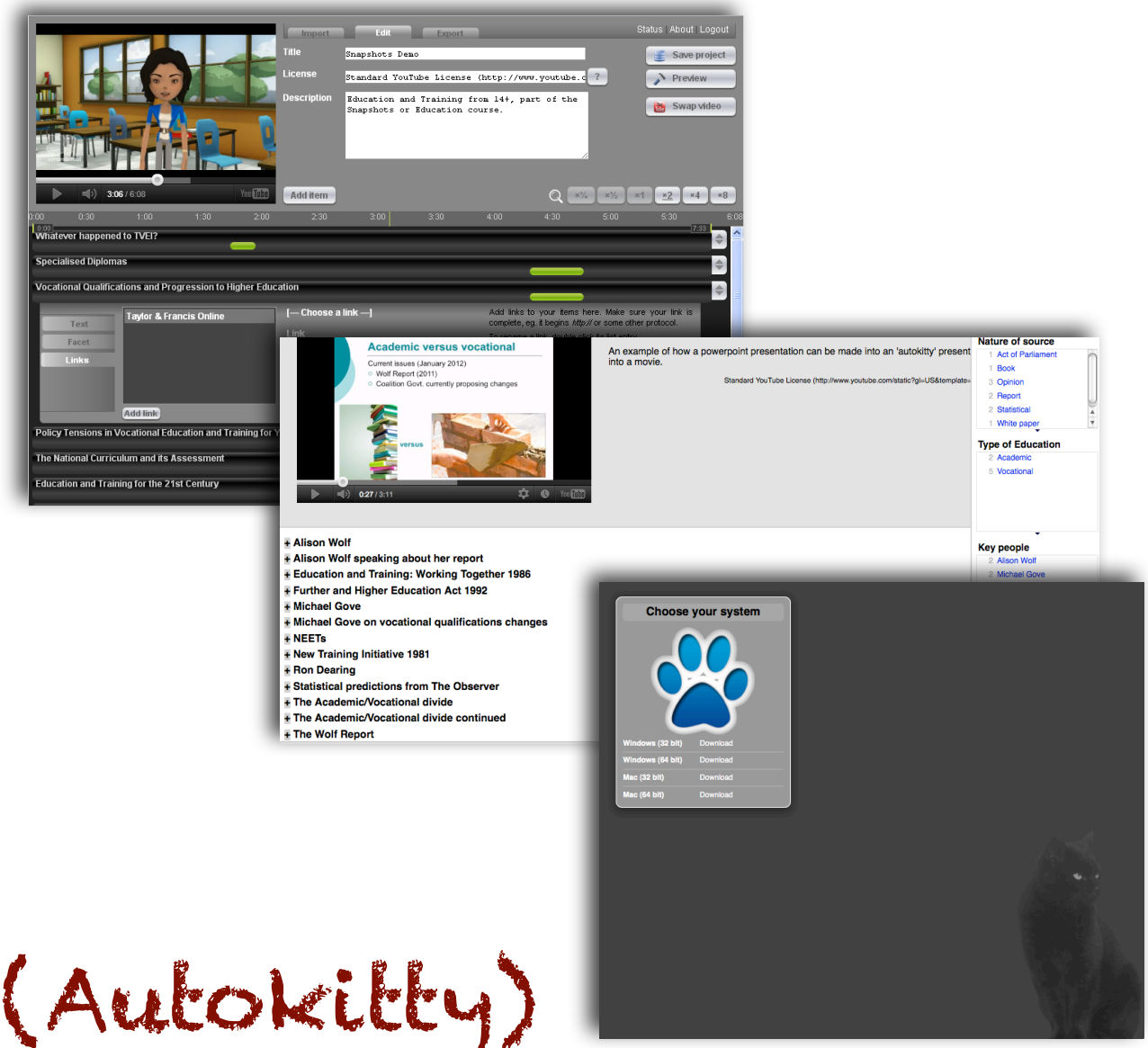
Video presentations with linked data



(Autokitty)

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2012, v1.0

creative commons
BY NC SA

Introduction

AutoKitty is a HTML5 web browser based tool for creating Semantic Web pages around a YouTube video. With little knowledge of the Semantic Web, or web development in general, a user can author rich semantic presentations centred on the narrative of the video, then save those presentations as standalone web pages to be uploaded to web space, added to a virtual learning environment, or uploaded into a repository. AutoKitty uses the power of modern web browsers (you'll need an HTML5 compliant browser, such as Google Chrome, Firefox 3.6 or Internet Explorer 9) to make the process of developing semantic pages intuitive, using a simple click-and-point user interface.

AutoKitty was developed by the Ensemble@LJMU team at Liverpool John Moores University, and funded by JISC. The Semantic Web pages produced use SIMILE Exhibit toolkit from MIT's Computer Science and Artificial Intelligence Laboratory. The AutoKitty name is taken from an early prototype, which featured a video of a white kitten. You can see it here: http://www.ensemble.ac.uk/wp/archives/portfolio/the-semantic-kitten

What is the semantic web?

The Semantic Web is a World Wide Web Consortium (W3C) initiative to facilitate and promote the use of linked data on the internet. Linked data (semantic data) is information that isn't merely disparate bits of data, but data with associations to other bits of data. For example, in the Semantic Web world a person isn't just an author, but the author of a specific set of books; those books in turn are on a specific set of topics, and each is published by a specific publisher; each publisher may specialise in various areas of publishing, and so on. By following the threads of this web of related data it would be possible to find all the authors who had books published on the topic of science by publishers who also published romance novels (a rather esoteric example, but one that demonstrates the point.)

The SIMILE Exhibit toolkit (http://www.simile-widgets.org/exhibit/) used by AutoKitty is an entirely client side piece of software; it works entirely within the web browser, and does not need to communicate back to a server once it has been loaded. It takes in a collection of data items, each with a set of related attributes (called facets), and weaves them together into a semantic web by using their facet values. In this way it makes it easy to create web pages with sophisticated visualisations of this linked data.

AutoKitty doesn't support the full range of semantic visualisations available using Exhibit; instead it focuses on one particular application of Exhibit – driving a semantic page using a video.

Getting started

This guide assumes that you are using the version of the application available online at http://ensemble.ljmu.ac.uk/projects/jisc/ak/, although most of the processes will be identical if you are using a locally hosted version.

AutoKitty is an HTML5 application, requiring a HTML5 compliant web browser. We recommend Google Chrome or Firefox 3.6+, although AutoKitty has also been tested on Internet Explorer 8+.

When first visiting the AutoKitty page you will need to log in. If you do not have an account, click the Sign Up link at the bottom of the sign in box. You'll be taken to a page asking you to register a username, password and email address. Once this is done, you'll be able to sign into the application itself. You can use any username, password and email address combination.

Logging in

When you first log into AutoKitty, the display will look something like this.

Across the very top of the screen is the tab bar, with three tabs.

Import lets you choose a new YouTube video to begin a project, or load a previously saved project from the database. **Edit** is the tab you'll spend most time on; it contains the controls to edit the project. **Export** lets you save the project to the database, generate a standalone version, or run the repository packager.

To start a project, select **Start a new project … from YouTube video**. You'll be presented with a search dialog permitting you to find a video on YouTube. There are three main text boxes, representing the three ways you can find a video:

- If you have already found a YouTube video yourself, and know its web address on the YouTube site, you can write or paste the web page address into the first box and click **Set**.
- If you want to search a particular YouTube channel (perhaps your own, one managed by an organisation, or the official channel of a broadcaster), you can do so by entering the channel id into the second box and click **List**. You may restrict your search to only Creative Commons results if you wish.
- If you want to do a free search on YouTube, enter your search term into the third box, and click **Search**. You may restrict your search to only Creative Commons results if you wish.

YouTube link
Channel listing
Free search
Select a YouTube video
EITHER: Enter a YouTube web address:
Set
OR: ...enter a YouTube channel id to list
bbc
List
OR: ...do a ge... YouTube search
Search
Creative Commons
Gareth learns more about the work of Severn Trent Water - The Choir: Sing While You Work - BBC Two (1:06)
Manchester Airport workers try out for the choir - The Choir: Sing While You Work - BBC Two (1:04)
Primal Scream perform Rocks for 6 Music Live at Maida Vale (4:58)
Hebburn Trailer - BBC Two (0:31)
Results
Cancel

Alternatively, to load an existing project, select **Load an existing project … from database** and choose the project from the dialog presented. Right clicking on an entry in the loading dialog brings up a menu that enables you to delete projects, or duplicate an existing project by loading it as a copy.

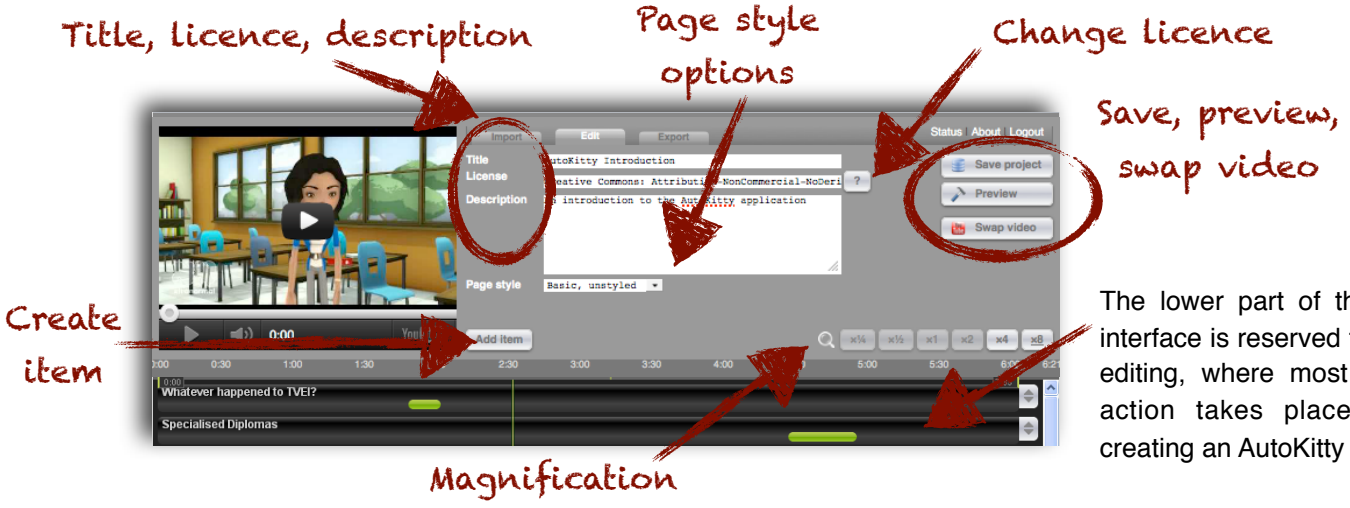
Once you have successfully chosen a video or loaded a project, you should be directed towards the **Edit** tab.

Editing

Editing is what you'll mostly spend your time doing when working with AutoKitty. The editing user interface is broken up into three areas: the video player is in the top left hand corner, the remainder of the top area is taken up by general text fields and buttons for the project as a whole, while the lower part of interface is where individual items are added and worked on.

Before considering the items, let's consider the top area controls. They consist of:

- A **title** text box for your project. This is the title of your Semantic Web page.
- A **license** for your project. This is the copyright, or other legal statement, appended to the end of your page. Clicking the **?** button shows a convenient dialog of Creative Commons licenses, but you are free to use the text box to specify your own.
- A **description** for your project. This will appear on the project page, as part of the main body of the page.
- An **add item** button, for adding items to the lower part of the user interface.
- Various magnification buttons, to scale the items (lower) part of the user interface.
- A convenient **Save project** button, which replicates the functionality of the one on the **Export** tab.
- A **Preview** button, for generating a preview of the Semantic Web page you are building.
- A **Swap video** button, for choosing a new YouTube video *without* deleting all the current data and items in the project. Note: if the new video is shorter than the previous one, project data will be truncated or deleted to match the new length. This is useful when working with your own videos on YouTube; if you upload an amended version of a video, this button will let you bring the new video into an existing project.

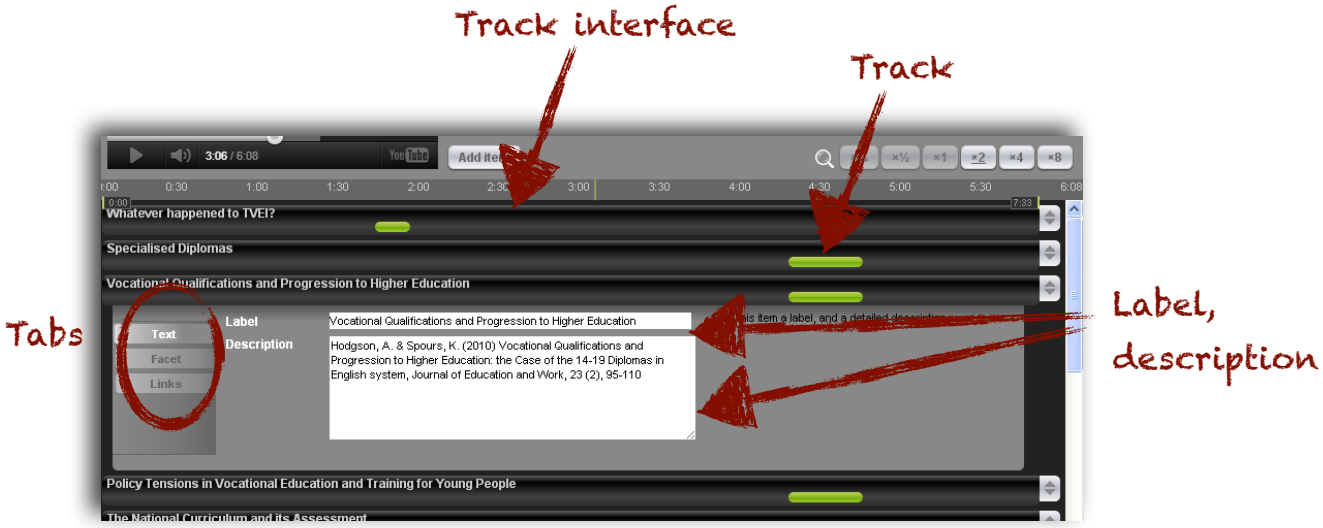


The lower part of the user interface is reserved for item editing, where most of the action takes place when creating an AutoKitty page.

Working with semantic data

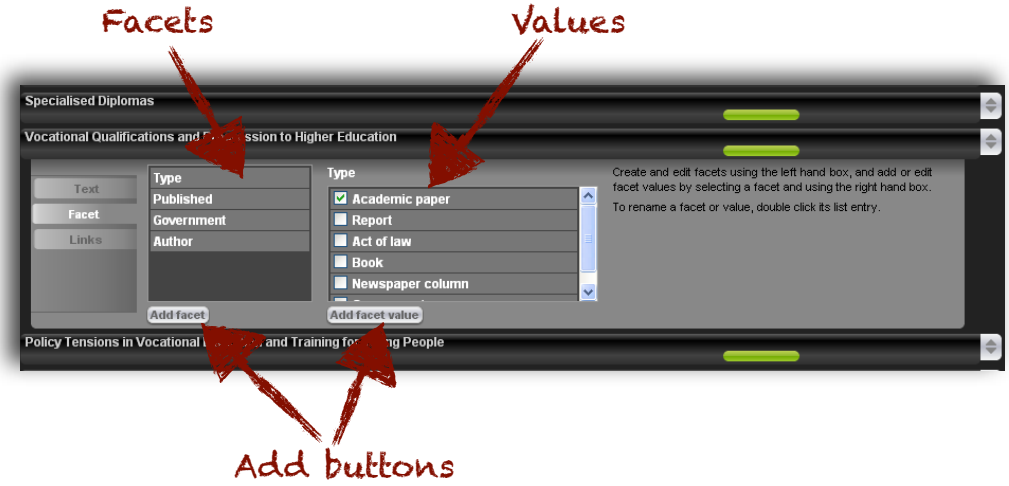
At the heart of AutoKitty is the concept of items. Items represent the things in your semantic page; they might be people, books, planets, ideas, political parties, or whatever is important for your particular page. The power of semantic data comes when items are linked through association, and in Exhibit (and AutoKitty) this happens by defining facets and facet values. For example one possible facet for a book item might be *author*, and a potential value might be *C.S. Lewis*.

The Exhibit toolkit allows page authors to create many different types of item, each with its own facets (books with *title*, *publisher* and *author*; authors with *name*, *birth date*, *nationality* and so on…) For simplicity the current version of AutoKitty sticks to just one type of item; this means the same facets apply across all items.


Track interface
Track
Tabs
Label, description
Whatever happened to TVEI?
Specialised Diplomas
Vocational Qualifications and Progression to Higher Education
Text
Facet
Links
Label
Description
Vocational Qualifications and Progression to Higher Education
Hodgson, A. & Spours, K. (2010) Vocational Qualifications and Progression to Higher Education: the Case of the 14-19 Diplomas in English system, Journal of Education and Work, 23 (2), 95-110
Policy Tensions in Vocational Education and Training for Young People

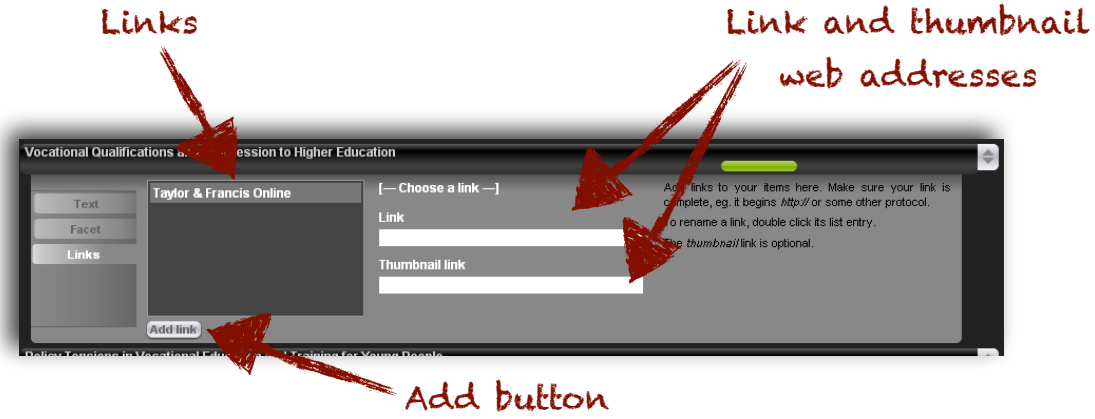
Adding a new item is as simple as clicking the **Add item** button in the upper part of the user interface. You'll be presented with a horizontal rectangular box with a thin line within it, and a silver button at its extreme right side. The horizontal box is the track interface, and the thin line is the track itself – we'll talk about these later in the documentation. The silver button opens and closes the item user interface. To delete an item, right click on its track interface (but outside one if its track lines) and select delete from the context menu.

Down the left hand side of the item user interface you'll see three tabs: **Text**, **Facets**, and **Links**. Each item requires a title, and can also have general text as a description. You can enter these using the **Text** tab.



The **Facets** tab is where facet data is entered and edited. It consists of two lists, one for the facets, and one for the values of the facets. To create a new facet, click the **Add facet** button, then double click the new entry in the facets list and rename it. Single click a facet to select it, and the corresponding values will appear in the second list (if that facet has any values). To add a value to a facet, make sure the desired facet is selected and click **Add facet value**, then double click the new value entry to rename it.

Each facet and each value appears for all items. As you add facets, and values for facets, you'll see they show up on the **Facets** tab user interface for every other item. Each value has a tick box that enables it to be applied to the current item – ticked means the value applies to this item, un-ticked means it doesn't. To delete a facet or a facet value, right click on it and select delete from the context menu. This will remove the facet or the value for ALL items. Use the tick box if you simply don't want a value to apply to a given item.



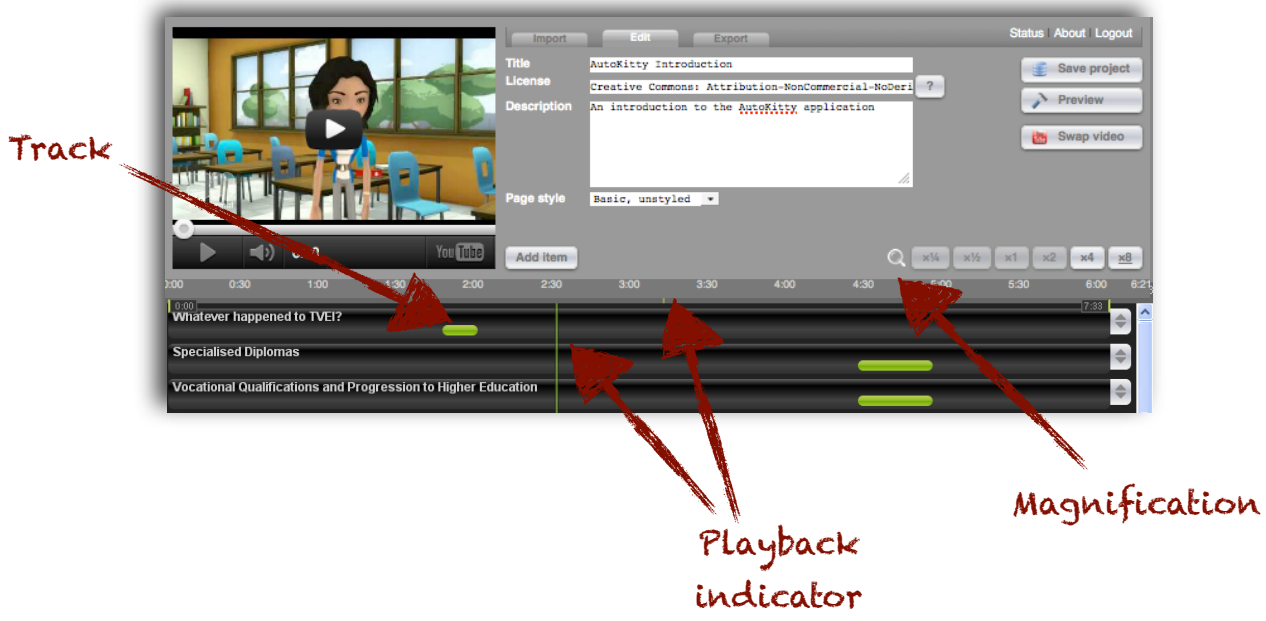
The **Links** tab is where web links can be added to each item. These can point off to supporting notes or articles (for example a news report, an encyclopaedia entry, etc.)

To add a link, click the **Add link** button then double click its entry to rename it. Use the **Link** and **Thumbnail link** text boxes to specify the web address relating to the link.

The thumbnail is optional, but be warned: it must point to an image file itself – not just a web page containing an image (a common mistake). Also, the image should ideally be quite small, as AutoKitty does not generate thumbnail images itself but merely loads the image you provide and scales it – if the image is very large it will take a long time to load, and may take up a lot of memory, perhaps causing some computers to slow. Photo sharing sites like Flickr will usually create thumbnail sized images for their pictures automatically.

Working with items: tracks

What AutoKitty adds to the standard SIMILE Exhibit toolkit is the ability to dive your semantic pages from a video. This is done, quite simply, by associating each item with one or more passages in the video using tracks.



A track marks out a passage of time in the video; it is represented by a thin bar within the item's track box. This bar can be manipulated by clicking and dragging with the mouse. To move the bar (thereby changing the passage of the video associated with this item), click near the centre of the track and drag left or right. To resize the bar (thereby extending or shortening its duration), click near the ends of the bar and drag left or right. To help you, whenever a track is resized or moved it displays timing indicators to show accurately where it starts and ends. If a track is very small, and you're having trouble resizing it, hold down the SHIFT key as you click and drag, as this will cause the track to resize rather than move.

Sometimes, for long videos particularly, it is difficult to accurately move or resize a track. In the upper part of the user interface there are several magnification buttons that allow you to zoom in or out for more accurate editing. Just below the magnification buttons, but above the item user interface area, there's a scrollbar that can be dragged left or right to see all of the magnified tracks that might fall outside the current window.

To further aid you, two thin vertical lines, one over the scrollbar and one over the item area, relate the current playback position within the video to the user interface. These are the playback indicators, and you may use them to accurately line up the start or end of a track with a point on the video. (For convenience, the one over the item area will vanish when an item's semantic data controls are showing.)

Each item can be associated with more than one passage on a video, so you may add a new track by right clicking an item's track box (outside of an actual track line itself) and selecting **Add track** from the context menu. You can delete a track line by right clicking on a track line itself, and selecting **Delete track** from the context menu. Sometimes, when editing, you end up with multiple track lines that overlap in time or touch. You can clean up your track lines easily by right clicking on an item's track area (outside of a track line) and selecting **Merge tracks**.

Previewing and exporting your work

On the **Editing** tab, at the right hand side of the user interface, you will see a **Preview** button. This can be used to generate a temporary Semantic Web page using the current data in your AutoKitty project.

Note! The preview loads into a new browser tab or page, so the first time you do this, you may be asked by your web browser if you wish to permit popup windows. You should select the configuration option for your browser that allows popup windows. (Annoyingly some browsers will require that you reload the AutoKitty page before this takes effect: make sure you save your current project before reloading, as all unsaved data will be lost!)

Switching to the **Export** tab reveals two options. The **Save this project … to database** does the same thing as the **Save project** button on the **Edit** tab. The **Generate … web page** option will create a permanent Semantic Web page from your current AutoKitty data, and prompt you to save it to your computer. The page generated by AutoKitty is entirely standalone, and does not require AutoKitty to run. It *does*, however, require an internet connection.

The **Generate ... package** option gives you a resource link to use with the packager software, a separate desktop application for pushing resources into repositories such as Jorum. To use this link you must download and install the appropriate version of the packager software for your computer.

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